

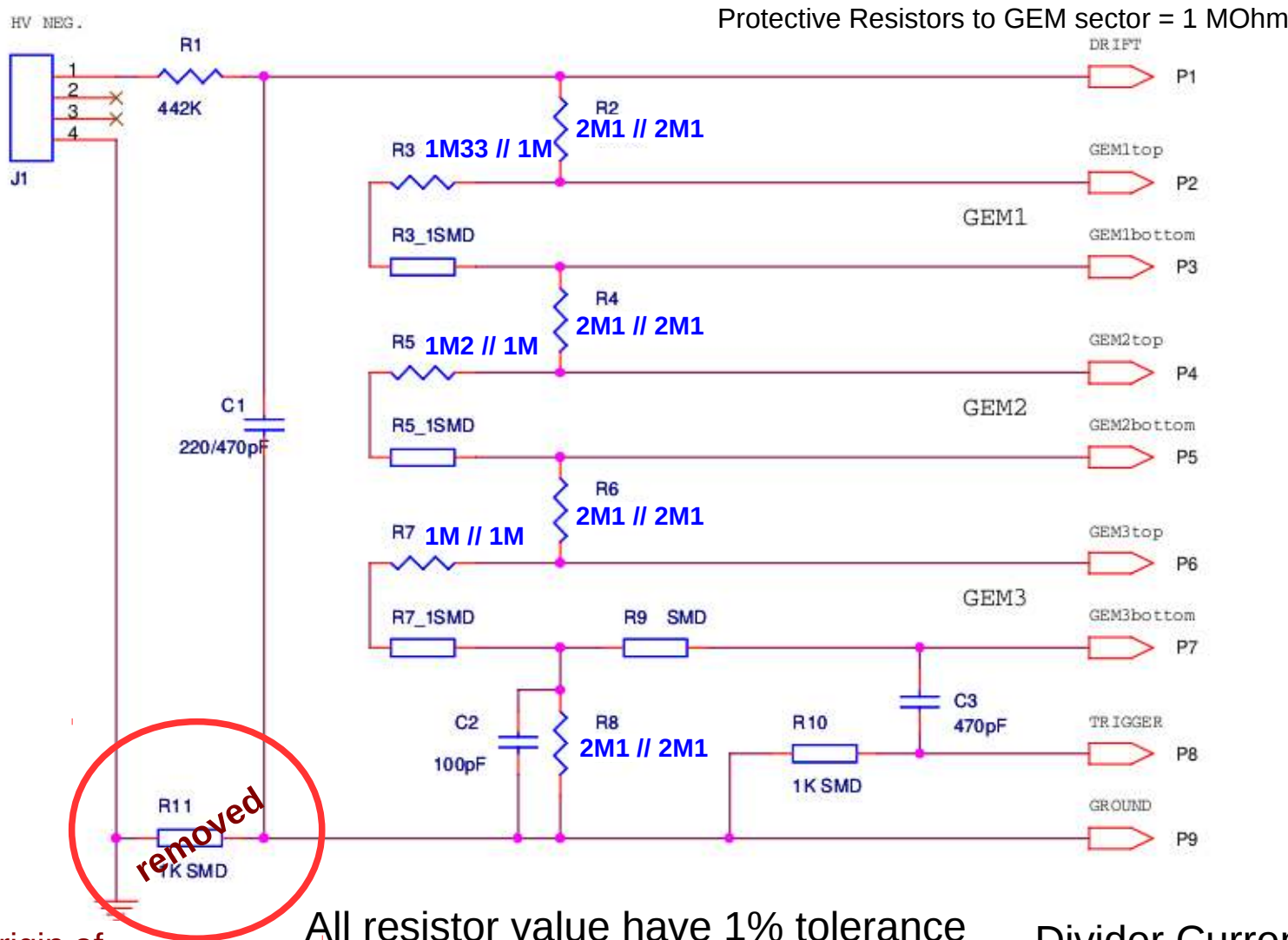
# Update on INFN - parallel divider Xray test

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# Divider with parallel resistors

7 x original INFN divider current



Origin of spikes, probably to large current (?)

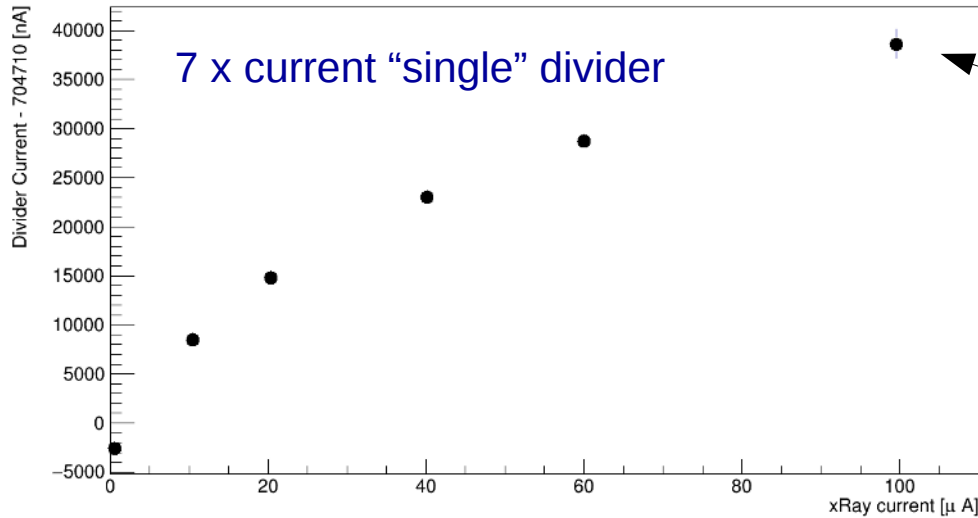
All resistor value have 1% tolerance and have **0.5 W** rating, 200 ppm/K (-55 °C, 155 °C)

Divider Current at 4000 V is ~686 uA  
max estimated W/resistor ~ 0.25 W

# // Divider Current vs X-ray current

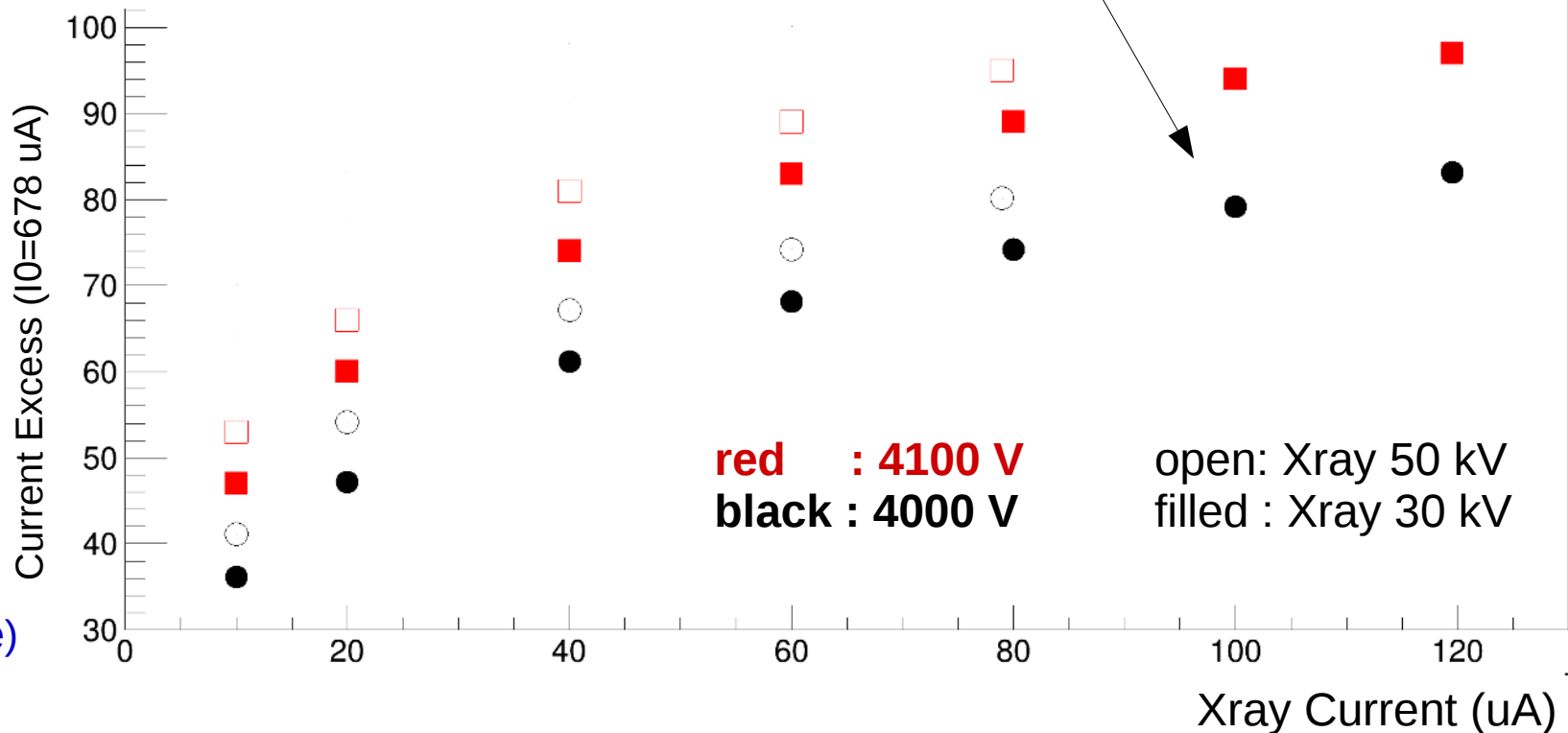
Divider current - Baseline at HV 4000 V (no multimeter)

10  $\mu$ A Xray ~ 5  $\mu$ A LH2 JLab



why a factor ~1.8 ?  
 baselines 705 vs 678  $\mu$ A  
 relative excess is ~10% of baseline

7 x current  
 parallel divider



"Manual"  
 Power Supply  
 CAEN N472

parallel divider  
 max temp (back side)  
 ~ 70  $^{\circ}$ C vs 100  $^{\circ}$ C

- After removal of 1 kOhm resistor, the divider ran stable for about 4 h with max temp of  $\sim 70$  °C (back side)
- we replaced the faulty HV power supply with a “manual” backup version
- we will compare the two 7x dividers (single and parallel) using the same HV power supply, to investigate the current excess difference
- with the available components, we can arrange “unbalanced” parallel dividers with current up to  $\sim 11x$  (all resistors within the 0.5 W limit)